Vepco

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION

P. D. BOX 402

MINERAL, VIRGINIA 23117

10 CFR 50.73

March 9, 1993

U. S. Nuclear Regulatory Commission Attention: Document Control Desk Washington, D.C. 20555 NAPS:MPW Docket No. 50-338 License No. NPF-4

Dear Sirs:

The Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Unit 1.

Report No. 50-338/93-005-00

This Report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to the Corporate Management Safety Review Committee for its review.

Very Truly Yours,

G. E. Kane Station Manager

Enclosure:

cc

U.S. Nuclear Regulatory Commission

101 Marietta Street, N.W.

Suite 2900

Atlanta, Georgia 30323

Mr. M. S. Lesser

NRC Senior Resident Inspector North Anna Power Station

Jess 1

-	nicosas	-	-	-	-	-	-	-	_	-	*************	-	-	-	-		-		-	THE REAL PROPERTY AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO PERSONS AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO PERSON NAME		Accessed to the last	-		-	-		-		_
NRC FOR (6-89)		6										U.S. NUC	LEAR REQUE	ATORY	COMME	SSION					A	PPROV E		MB NO. ES: 4/3		0104				
	٠				LIC	EN	SEE	EVI	ENT	FE	PORT	(LER)					CG ES NL PA	DELEC STIMA JOLEA JOERY	TE AR WOL	D BURDE IN REQUI TO THE A REGULAT IK HEDUC ASHINGT	ECORDS TORY CO	D HRS. B AND I DMMISS ROJECT	FOR REPO SION,	WARD RTS M WASH	COMI ANAG INGTO	MENTS EMEN ON, D	RET BR	BARDIN ANCH (1 555, AN	9 BUR 9-630), D TO	U.B. THE
CAPIL IN		127		*****		-		entrection	-	and the same	-					S PROPERTY NA		-	-		****	Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, which i	-Fortier		-00	ne, amount	NOTE . TOTAL	-	DACE	-
FACILITY					0.		- T	tanda 1	1															NUMBER				-	PAGE	
A Commence of the		HIR	ro	WCI	30	auo	n U	DH	1		-					-	contemporar		-		-	0	5	0 0	10	131	3	8 1	OF	0 3
TITLE (4)	L	OS:	SOF	1H	EM	ERC	EN	CY E	IUS	DUE	TO FI	SEDER	BREAK	ERS '	TRIPP	ING	OP.	EN U	PC	N DEGI	RADED	VOL	TAG	EAUX	CIII	ARY	REL	AY FA	IL.UR	E
EV	VENT	TAC	E (5)	accidence	T	-	MATERIAL MAT		LE	R NUR	ABER (6)				REPO	HT D	BATE	(7)	-			OTE	HERF	ACILIT	ES IN	VOLVE	D (8)		-	
MONTH	T	DAY	Τ,	EAR		YEAR	T			ENTIAL			VISION	MC	HTM	To	AY	YEA	LFI.	-	FACIL	TY NAM	MES	-	00	CKET N	UMBE	R(S)	-	***********
	-	-	+	-	+		-	-	NUB	BER	- 11	NU	MBER	-		-		-							0	5	0 1	0 0	1.1	
		1		1		1	-		1		-				1	1	1	1							months of the country	CKET N	ranion at Paris	THE RESIDENCE OF THE PARTY OF T	Acystosphos	
0 3	2	1	9 9	13	1	9 3	3	0	1	)	5	0	0	0	3	0	9	9	3						0	151	0 1	0 0		
19910	ERA		- Andrews	6	I	-		-	SUE	TTIME	ED PUR	SUANT	TO THE RE	QUIRE	EMENT	S OF	100	FRE	(Ch	eck one or	more of t	he follow	wing)	(11)		leave and	-			
N	NODE	(9)		1	1	-	0.402						20.405(c)					2	X	50.73(a(2)						73.7	1(b)			
POW					L	-		(a)(1)					50.36(c)(1	1)						50.73(8)(2	) (v)					73.7	32.7			
LEV		1	0 0	10	L	21	0,405	(a)(1)	(16)				50.36(c)(2	2)						50.73(a)(2	)(vii)							pacify in Abo set NHC Fo		
						20	.405	(2)(1)	(iii)				50.73(a)(2	2)(1)						50.73(a)(2	(A)(iiiv)(									
						20	0.405	(a)(1)	(iv)				50,73(a)(2	2)(1)						50.73(a)(2	)(viF)(B)				1					
					I	20	0,405	(8),1)	(V)				50.73(a)(2	Z)(iil)						50.79(a)(2	)(x)									
					-	_	-						LICENSE	E CO	NTACT	FOR	THIS	LER	(12)				,					-		
NAME	40																								TEL	EPHO	NE N	JMBER		
G. E.	Kai	ne																					ARE	A CODE						
																							1.1	al a		11	. 1	Lal	. 1 .	1.
						-	-	-						2500			10.100							0 3	8	19	4	- 2	110	11
	-	-	-	-	-	-		MAN	Per St. Same	interference of	REPOR	AND PROPERTY AND INCIDENT	OR EACH	CCMP	ONEN	-	7		T	anticolorum anno	1	protestation della	NUFA	C.	DEPO	MAY DE	- 13			
CAUSE	SYS	EM.	COMPON		NENT		MANUFAC- TURER			TON					CAUS	SE E	SYSTEM		COMPONENT		MANUFAC- TURER			TO MPROS						
В	E	S	0	0	2	7	W	1	2	0	)							1		-		1	1							
			1	1			П						Paradier and Automore and Sin				T	1	Ť	1.1		1	ī				T			
		-				L	1	8	(00)	CMCA	TAL DE	PCSBY EX	KPECTED (	141		na-maritras	1	1	1								_10	*****	-	-
	-		ALL KINDS				-	-	7 6.0		1740 1460	T	1	- Maria		-	-		OF SHIP	-	-	E	XPEC	TED	T	MONT	нТ	DAY	Ty	EAR
YES (II yww. complain EXPECTED SUBMISSION DATE)						-	× NO								SUBMISSION DATE (15)				1		1		1							

On Pohruseu 10 1003 at 1520

ABSTRACT (Limit to 1400 epaces, i.e., approximately fifteen single-space typewritten lines) (16)

On February 19, 1993, at 1530 hours with Unit 1 defueled the 1H 4160 volt emergency bus was de-energized as a result of the 1H emergency bus feeder breakers tripping open. The 1H emergency diesel generator had been removed from service to prevent an unnecessary start while calibrating the 90 percent degraded voltage sensing relays. Upon completing the calibration two of three normally energized auxiliary relays failed to reset when they were energized. As a result the circuit interpreted this action as a degraded voltage condition on B and C phases which caused the feeder breakers to trip open causing a loss of power to the 1H emergency bus. The 1H emergency bus was energized at 1647 hours. A four hour report was made to the NRC pursuant to 10CFR50.72(b)(2)(ii). This event is reportable pursuant to 10CFR50.73(a)(2)(iv).

The cause of the event is component failure of two degraded voltage auxiliary relays.

No significant safety consequences resulted from the event because the 1J 4160 volt emergency bus was energized and remained fully operable throughout this event. Therefore, the health and safety of the public were not affected at any time during this event.

NRC FORM 366A (6-89)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-3104  EXPIRES: 4/30/92  ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HIRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20556, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104). OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.							
	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION								
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)						

0|5|0|0|0|3|3|8|9|3

NUMBER

0

North Anna Power Station Unit 1

### 1.0 Description of the Event

On February 19, 1993, at 1530 hours with Unit 1 defueled, the 1H 4160 volt emergency bus (EIIS System Identifier EK, Component Identifier BU) was deenergized as a result of the 1H emergency bus feeder breakers (EIIS System Identifier EK, Component Identifier 52) tripping open. The 1H emergency diesel generator (EIIS System Identifier EK, Component Identifier DG) had been removed from service to prevent an unnecessary start while calibrating the 90 percent degraded voltage sensing relays. Upon completing the calibration two of three normally energized auxiliary relays (EIIS System Identifier EK, Component Identifier RLY) failed to reset when they were energized. As a result the circuit interpreted this action as a degraded voltage condition on B and C phases which caused the feeder breakers to trip open causing a loss of power to the 1H emergency bus. The 1H emergency bus was re-energized at 1647 hours. A four hour report was made to the NRC pursuant to 10CFR50.72(b)(2)(ii). This event is reportable pursuant to 10CFR50.73 (a) (2) (iv).

NUMBER

0

All channel calibrations were completed satisfactorily. When the DC control fuses were replaced to return the undervoltage trip circuits to the normal configuration two of three normally energized auxiliary relays, 27XB-1H1 and 27XC-1H1 (Westinghouse Industrial Control Relay Type AR No. ARD440V), failed to reset thereby initiating the time delay trip. The timer relay (EIIS System Identifier JE, Component Identifier 62) will energize 56 seconds after a degraded voltage signal is sensed on 2 of 3 phases. After the 56 seconds elapsed the degraded voltage circuit tripped the normal 1H emergency bus feeder breakers as designed. This resulted in a loss of power to the 1H 4160 volt emergency bus. The 1H 4160 volt emergency bus was energized, at 1647 hours, from the normal feed (F transfer bus) (EIIS System Identifier EB, Component Identifier BU).

## 2.0 Significant Safety Consequences and Implications

No significant safety consequences resulted from the event because the 1J 4160 volt emergency bus was energized and remained fully operable throughout this event. Therefore, the health and safety of the public were not affected at any time during this event.

#### 3.0 Cause of the Event

The cause of the event is component failure of two degraded voltage auxiliary relays.

## 4.0 Immediate Corrective Actions

Operations procedure 1-AP-10, Loss of Electrical Power, was entered to diagnose the problem. The 1H 4160 volt emergency bus was energized using normal power from transfer bus F.

NRC FORM 386A (6-89)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/92
	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION	ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20565, AND FAPERWORK REDUCTION PROJECT (9150-0104). OFFICE OF MANAGEMENT AND

		DUDGE 1	, erma	CHINEST CHE, ENGLIS			
FACILITY NAME (1)	DOCKET NUMBER (2)			PAGE (3)			
North Anna Power Station Unit 1		YEAR		SEQUENTIAL NUMBER	REVISION NUMBER		
North Allia Power Station Clin 1	0 5 0 0 0 3 3	8 9 3	-	0   0   5	 0 0	0   3 OF 0   3	

TEXT (If more space is required, use additional NRC Form 366A's) (17)

# 5.0 Additional Corrective Actions

The two failed auxiliary relays, 27XB-1H1 and 27XC-1H1, were replaced. Functional testing of the new relays were completed satisfactorily.

## 6.0 Actions to Prevent Recurrence

Periodic test procedure 1-PT-36.13H and 13J will be revised to include anticipatory steps, to preclude an emergency bus trip due to failure of an auxiliary relay, when returning the control circuits to their normal configuration following completion of the channel calibrations.

The Unit 2 periodic test procedures will be reviewed and changes made as necessary to ensure consistency with Unit 1.

Corrective actions resulting from a previous event, LER N2-91-006-00, include an action plan that will identify and address ARD relay problem areas.

### 7.0 Similar Events

LER N1-87-013-00, dated July 10, 1987, identified that power to the 1H 4160 volt emergency bus was lost when the timer relay in the degraded voltage circuitry was energized during the performance of a functional test for the timer relay set point check. This occurred when one wire on a terminal being used for test purposes was not lifted as intended by the procedure.

LER N2-91-006-00, dated September 19, 1991, identified the failure of a timer relay in the 2J emergency bus degraded voltage circuit during functional testing.

### 8.0 Additional Information

Unit 2 was operating at 100 percent power, Mode 1, and was not affected by this event.